

NATIONAL WETLANDS INVENTORY (NWI) MAPPING

Information Provided by NWI

The National Wetland Inventory (NWI), administered by the U. S. Fish and Wildlife Service of the U. S. Department of the Interior, completed mapping of most of the project area in May of 2001. The NWI mapping was completed at the request of Lynda Saul (Wetlands Coordinator for the Montana Department of Environmental Quality) to assist with this project. The NWI mapping was based on stereoscopic analysis of CIR aerial photographs taken in July 1984. The aerial photographs used were at a scale of 1:58,000. Draft NWI maps were provided as blue-line copies of USGS 7.5-minute topographic maps, with the inventoried wetland features drawn on the blue-line maps. Table 4 above shows the USGS 7.5-minute map areas completed by NWI. Digital files of the wetland features mapped by the NWI were also provided. Information on the methods used for the NWI mapping was not provided with the maps and digital data.

Results

The NWI mapping was incorporated into the Gallatin County GIS system. This was completed by importing the digital files provided by NWI into the Gallatin County GIS system. This allowed for review of the areas mapped by NWI by overlaying the mapped areas on the 2001 CIR imagery developed for the project. It also allowed for side-by-side comparison of wetland areas mapped by NWI with wetland areas inventoried for this project, and allowed for summarizing the results of the NWI mapping, using the ArcViewTM GIS software. The results are presented in Table 5.

Table 5
Summary of NWI Mapping of Wetlands

NWI Mapping (1984 Data)	Total Acres	% of Study Area	Maximum Size (acres)	Minimum Size (acres)	Feature Count
Wetlands	4,755	1.42%	209	0.01	2,449

The original plan was to review the NWI mapping and suggest any changes or corrections based on field inspections. It was decided that this was not practical because there was a 15-year gap between the CIR imagery used by NWI and the CIR imagery developed for this project. Without extensive field work there was no way to determine if wetland areas identified by NWI that were not visible on the 2001 CIR imagery were present in 1984. Instead the NWI GIS layer was used to help guide the construction of the current layer.

Differences that were noted include 1) NWI mapped ponds and open stream channels as wetland features while this project mapped them separately, 2) the river channels have migrated to the point that some areas mapped as wetlands by NWI are now gravel bars, 3) NWI mapped most of the irrigation ditches in the area as linear wetland features while this project did not, and 4) NWI mapped the main river channel areas as wetlands (especially the East Gallatin River), while this project mapped the meander corridor areas adjacent to the river channels as wetlands. Figure 7 shows a comparison of the NWI mapping and the mapping completed for this project with examples of differences.

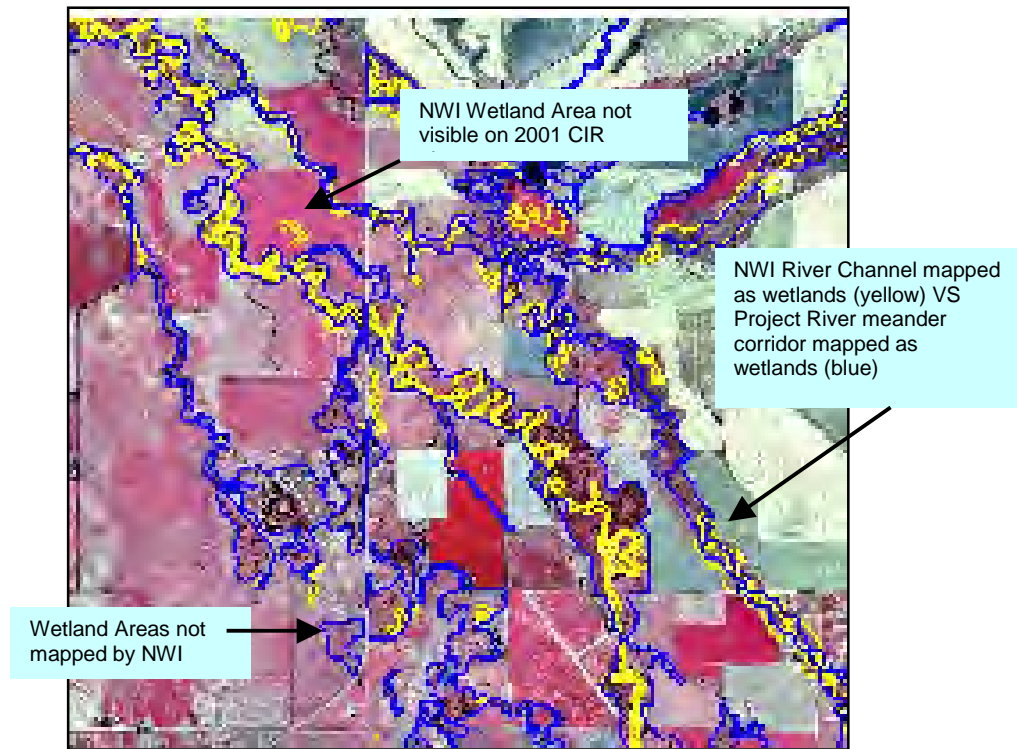


Figure 7. Comparison of areas mapped as wetlands by NWI (in yellow) with areas mapped as wetlands for this project (in blue).